Appendix 1. *Simulation Template*

Expected Participants/Difficulty Level/Target Audience:

Junior and senior medical residents in emergency medicine and pediatrics

Location:

Pediatric Emergency Department

Case Stem:

- *Age:* 16-year-old female
- *History:* The patient presents to the ED with dyspnea and confusion. She has been unwell for approximately five days. Initially, she had a non-productive cough and a runny nose which seemed to improve initially but then, over the past 24 hours, she became increasingly fatigued and short of breath. Her cough is now producing a green-coloured sputum. She was found by her mother, febrile and disoriented, and brought immediately to the ED.

Collateral History:

- When her mother returned from work the patient was obviously unwell. Her mother recorded an oral temperature of 39.1°C.
- The child was previously healthy. She takes no chronic medications. She has no psychiatric illnesses and no medication bottles were found near her. She had an appendectomy two years prior.
- On review of medical records, it is noted that during the appendectomy the anesthesiologist encountered an unexpectedly difficult intubation. Multiple unsuccessful attempts were made ultimately resulting in a fiberoptic intubation. The reasons for the difficultly are not clear however it was ‘anatomically difficult’ – possibly a congenital

anomaly.

Debrief

1) *Medical*
    - Resuscitation of the child respiratory failure
        - Summary: Teenager with severe pneumonia, respiratory failure, and shock. Fluids and early antibiotics were essential therapies
        - Decompensation was inevitable independent of action taking
    - Airway considerations:
        - Expected difficult airway with unsuccessful BMV necessitated early consultation with anesthesia and/or ENT; these services were unavailable
        - Team leader is asked to narrate their thought processes, their recognition of futility, and the need for a surgical airway
2) *Crises Resource Management*
    - Assignment of roles
    - Communication with team and consultants

Confederate Information

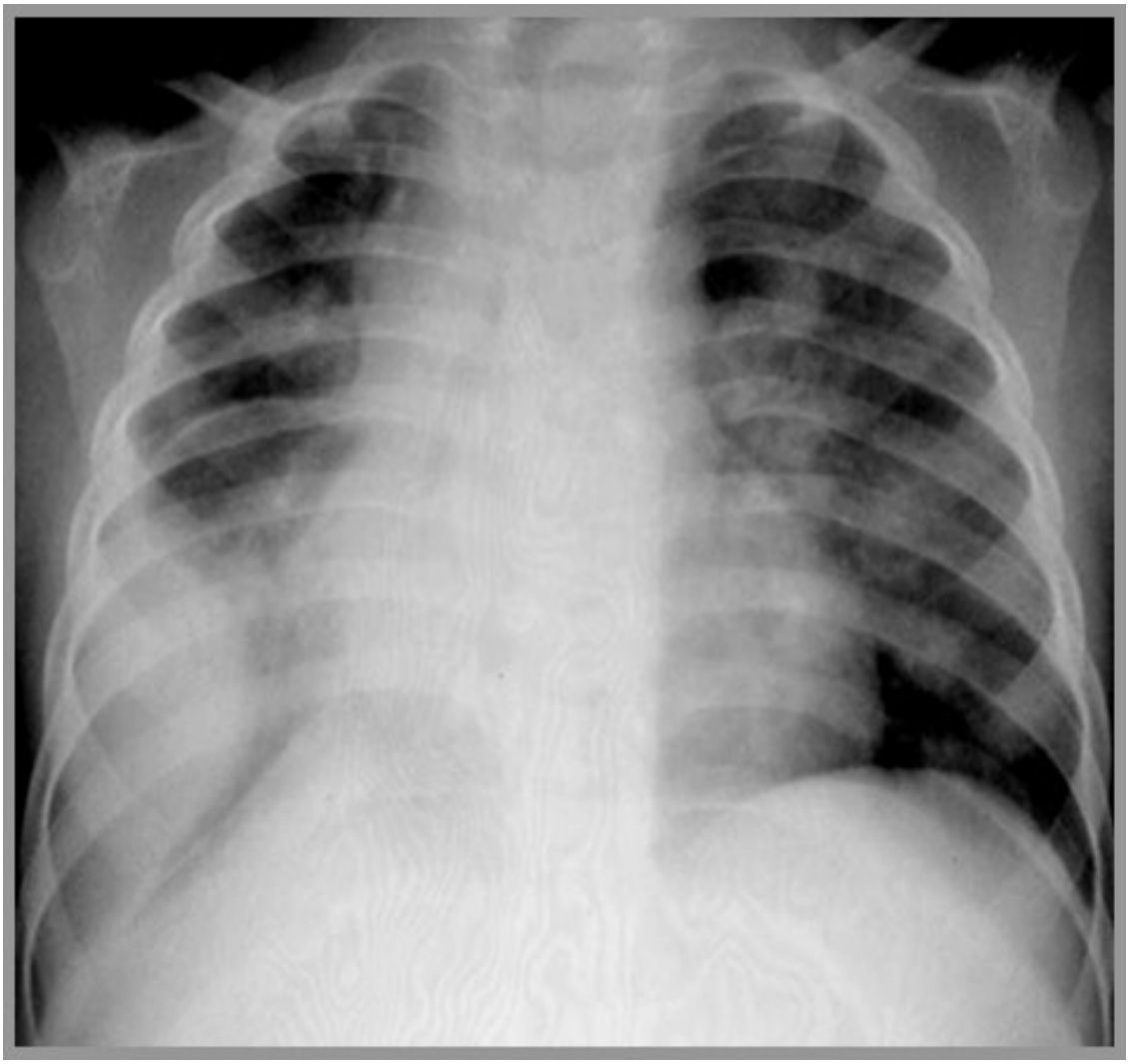
Role: Nurses 1 and 2, Respiratory Therapist, Medical Student

Specific Cues/Requirements: Predominantly passive role, completing tasks when asked and delivering clinical information. Nurse swill verbally report oxygen saturation every 1 minute when the saturation is below 70%. The respiratory therapist assists with BVM and prepares intubation equipment. The RT is trained to perform direct and video laryngoscopy and endotracheal intubation (the team leader is informed of this before the simulation).

Role: Consulting service (Anesthesia/ENT)

Specific Cues/Requirements: Consultation is obtained by phone. The consulting service recognizes the critical status of the child but not available for at least 20 minutes. The team leader must continue the resuscitation and attempt at airway intervention if required.

Chest X-Ray



EKG